

AMENDMENTS TO THE DRAWINGS

The attached replacement sheet(s) of drawings, which include changes to Figs. 9A (lower), 10A and 10B, are to be substituted for the original drawing sheets containing these figures.

REMARKS

With the entry of the present amendment, claims 1, 4, 5 and 7-10 will be pending in this patent application.

Objections to Drawings

The Examiner's objection to drawing Figs. 10A and 10B is obviated by the submission herewith of replacement sheets containing Figs. 10A and 10B, which have amended by adding PRIOR ART labels. Applicant is also submitting a replacement sheet containing figures labeled as FIG. 9(A) and 9(B); to be substituted for the original drawing sheet that erroneously contained two figures labeled FIG. 9(A). No new matter is introduced by these amendments to the drawings.

Prior Art Rejection I

Claims 1-9 were rejected under 35 USC § 103(a) as being unpatentable over US 6374885 B1 (Uchida et al.) in view of US 2003/0029537 A1 or EP 1 277 599 A2 (both Iwamura). Applicant respectfully traverses this rejection in so far as it might be deemed applicable to claims 1, 4, 5 and 7-10 as now presented.

Applicant is submitting herewith an English translation of the Japanese patent application on which Applicant's claim to foreign priority under 35 USC § 119 in this application is based. (A verification of the translation will follow.) With the claim to foreign priority in this application perfected, neither of the Iwamura documents can qualify as prior art against claims in this application in a rejection made under the provisions of under 35 USC § 103(a).

In view of the foregoing observations, Applicant respectfully submits that the Uchida et al. and Iwamura documents cannot properly serve as a basis for rejecting claims 1, 4, 5 and 7-10 under 35 USC § 103(a).

Prior Art Rejection II

Claims 1-9 were also rejected under 35 USC § 103(a) as being unpatentable over Uchida et al. in view of US 5350001 (Beckman) and optionally JP 4-306106 (JP '106). Applicant

respectfully traverses this rejection in so far as it might be deemed applicable to claims 1, 4, 5 and 7-10 as now presented.

As observed by the Examiner, the tread of the Uchida et al. tire is formed of fiber-containing rubber and is configured with blocks 13, 14 provided with zigzag sipes 9. As described in column 3, lines 26-42, the forming of the sipes produces a generally radial orientation of the fibers in the tread rubber. As acknowledged by the Examiner, the location of the zigzag part of the sipes in the Uchida et al tire does not vary along the depth of the sipes. As a remedy for this deficiency of the Uchida et al. disclosure vis-à-vis the requirements of Applicant's claims, the Examiner proposes modifying the Uchida et al. tire so as to incorporate sipes like those employed in the tire disclosed by Beckmann. The Examiner relies on JP '106 for a disclosure of pitches of zigzag sipes.

Without acquiescing in the rejection, Applicant has amended claims 1, 4 and 7-9 and has added new claim 10. In particular, independent claim 1 has been amended to recite the depth-wise displacement in the zigzag part of the sipes as oscillating in the longitudinal direction of the sipe so that a wall surface of the sipe is made up of parallelograms at the zigzag part of the sipe. Claim 1 has also been amended to specify that the sipes have two straight line portions parallel with the center line of the zigzag part of the sipe and that the displacement is in a range of 0.5-2.0 mm. Support for the amendments to claim 1 is provided in the original specification in line 24 of page 7 through line 2 of page 8, in lines 15-16 of page 15 and in original claims 2 and 6. New Independent claim 10 recites the depth-wise displacement in the zigzag part of the sipes as oscillating at right angles to the longitudinal direction of the sipe. Support for the subject matter recited in claim 10 can be found, for example, in original claim 3.

The disclosure in Beckmann et al. pertains to tire mold lamellae for creating fine cut-outs in the tire tread surface. That is, Beckmann et al. pertains more generally to mold inserts rather than to a tire tread. As a result, Beckmann et al. fails to disclose or suggest the orientation of sipes other than the statement at column 7, lines 63-66, "The lamellae fine cut-outs or incisions 17 provided in each one of the blocks 14, extend in generally transverse direction and open or terminate in the circumferential recesses or grooves 16." There is no disclosure or suggestion in

Beckmann et al. that the incisions would be advantageously applicable to a tire tread formed of fiber-containing rubber.

The tire treads disclosed in JP '106 have sipes that present straight, not zigzag, edges at the tread surface. There is no disclosure or suggestion in JP '106 that the incisions would be advantageously applicable to a tire tread formed of fiber-containing rubber.

As noted above, Applicant's claim 1 calls for sipes have two straight line portions parallel with the center line of the zigzag part of the sipe as well as a displacement amount (La) of the zigzag part in the longitudinal direction of the sipe in a range of from 0.5 to 2.0 mm. And, claim 10, which recites the zigzag part of the sipes as oscillating at right angles to the longitudinal direction of the sipe, calls for a wall surface made up of rectangles at the zigzag part. Nowhere does Beckmann et al. disclose or suggest a tire tread having these claimed features. An advantage of the claimed sipes, as disclosed on pages 10 and 11 of Applicant's specification, is that the shape of the zigzag part is the same at any depth of the sipe, and the shape of the sipe presented at the tread surface does not materially change with wear.

From the foregoing observations, it is evident that there are no teachings in Uchida et al., Beckmann et al. and JP '106 that would make obvious the modification of the Uchida et al. tire proposed by the Examiner. Moreover, if the Uchida et al. tire were modified using teachings in Beckmann et al. and JP '106, the resulting tire could not have a tread that would satisfy the requirements of Applicant's independent claims 1 and 10. Applicant respectfully submits, therefore, that the disclosures in Uchida et al., Beckmann et al. and JP '106 cannot properly serve as a basis for rejecting either of independent claims 1 and 10 or dependent claims 4, 5 and 7-9 under 35 USC § 103(a).

The allowability of the independent claims obviously inheres in the dependent claims. In addition, the dependent claims recite other features that are patentable over the prior art. For example, there is no disclosure in the applied prior art that can meet the combination of zigzag amplitude and pitch required by claim 5, and there is no disclosure in the applied prior art that can meet the displacement amount recited in claim 8.

Other Prior Art

Applicant has reviewed the other prior art cited by the Examiner. This prior art was not applied against Applicant's claims and does not warrant comment by Applicant.

Conclusion

In view of the observations and arguments presented herein, Applicant respectfully requests that the Examiner reconsider and withdraw the objection and rejection stated in the outstanding Office Action and recognize all of the pending claims as allowable.

If unresolved matters remain in this application, the Examiner is invited to contact Frederick R. Handren, Reg. No. 32,874, at the telephone number provided below, so that these matters can be resolved expeditiously.

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Respectfully submitted,

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Attachments: English translation of priority document
Replacement Drawing Sheets (2)